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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/708,680   | 03/18/2004  | Hongtei E. Tseng     | 81095830FGT1912     | 2679             |
| 28549  | 7590        | 11/20/2006           | EXAMINER            |                  |
| ARTZ & ARTZ, P.C.<br>28333 TELEGRAPH ROAD, SUITE 250<br>SOUTHFIELD, MI 48034 |             |                      | SY, MARIANO ONG     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 3683                |                  |

DATE MAILED: 11/20/2006

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/708,680  
Filing Date: March 18, 2004  
Appellant(s): TSENG ET AL.

**MAILED**

**NOV 20 2006**

**GROUP 3600**

\_\_\_\_\_  
Attorney Jerome R. Drouillard  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 11, 2006 appealing from the  
Office action mailed April 3, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

|              |                  |        |
|--------------|------------------|--------|
| US 6,612,394 | Wessman          | 9-2003 |
| US 4,903,983 | Fukushima et al. | 2-1990 |
| US 6,588,858 | Ritz et al.      | 7-2003 |

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|              |                |         |
|--------------|----------------|---------|
| US 6,481,806 | Krueger et al. | 11-2002 |
| US 4,227,716 | Nordstrom      | 10-1980 |
| US 5,560,640 | Lee            | 10-1996 |
| US 5,549,319 | Kring          | 8-1996  |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1, 2, 4-9, 11, 12, 15, 17-21, 27, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman (US 6,612,394) in view of Fukushima et al. (US 4,903,983).

Re-claims 1, 2, 6-9, 11, and 12 Wessman disclosed, as shown in fig. 4, a method of controlling a vehicle having a vehicle suspension component, said vehicle having a first turning radius A2 comprising: applying brake-steer to at least one wheel to provide a second turning radius A1 less than the first turning radius, see abstract, background of invention and summary of invention.

However Wessman was silent to disclose a controllable suspension component and failed to disclose articulating at least one wheel coupled to the controllable suspension component to provide a third turning radius of the vehicle less than the second turning radius.

Under "Background of Invention" col. 1 of Wessman '394 teaches at least one wheel coupled to the suspension arrangement optimized for a small minimum turning radius.

Fukushima teaches the use of a controllable suspension component in a vehicle suspension system.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman with a known controllable suspension component, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claims 4 and 5 Wessman was silent to disclose applying brake-steer comprises increasing normal load on a rear or a front wheel.

Fukushima teaches applying brake-steer comprises increasing normal load on a rear or a front wheel, see abstract and summary of the invention.

It would have been obvious to one of ordinary skill in the art to utilize the known brake-steer and increasing normal load on a rear or a front wheel on the vehicle of Wessman, as taught by Fukushima, in order to improve maneuverability of the vehicle during turning.

Re-claims 15 and 27 Wessman was silent to disclose a solenoid actuated suspension component.

Fukushima teaches, as shown in fig. 1-2, the use of a solenoid actuated suspension component.

It would have been obvious to one of ordinary skill in the art to utilize solenoid actuated suspension component into the suspension system of Wessman, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claim 17, 29, and 30 Wessman disclosed, as shown in fig. 4, a vehicle having a turning radius comprising: a suspension and a controller and under "Background of Invention" col. 1 teaches at least one wheel coupled to the suspension arrangement optimized for a small minimum turning radius.

Fukushima teaches the use of a controllable suspension component in a vehicle suspension system.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman with a known controllable suspension component, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claims 18-21 Wessman disclosed, as shown in fig. 1-4, wherein the controller is programmed to determine a brake-steer condition in response to a parking mode, a parking mode in response to a vehicle speed and a steering wheel angle, see summary of invention.

5. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Ritz et al. (US 6,588,858)

Re-claims 3 and 23 Wessman as modified was silent to disclose applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel.

Ritz et al. teaches applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel so that the turning radius of vehicle is reduced, see abstract, col. 2, lines 43-67 and col. 3, lines 1-13.

It would have been obvious to one of ordinary skill in the art to have utilize the known teaching of applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel in the system of Wessman as modified, as taught by Ritz et al., in order to improve vehicle stability.

6. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Krueger et al. (US 6,481,806).

Re-claims 10 and 22 Wessman as modified was silent to disclose detecting a parking mode in response to a driver-actuated switch.

Krueger et al. teaches the use of a pedal brake switch 82 to sense a brake signal during a brake application.

It would have been obvious to one of ordinary skill in the art to utilize the known driver-actuated switch on the vehicle of Wessman as modified, as taught by Krueger et al., in order to detect a brake application.

7. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Nordstrom (US 4,227,716).

Re-claims 13 and 24 Wessman as modified failed to disclose the suspension component comprises articulating using a Hotchkiss suspension.

Nordstrom teaches the use of a Hotchkiss suspension.

It would have been obvious to one of ordinary skill in the art to utilize a Hotchkiss suspension in the suspension system of Wessman as modified, as taught by Nordstrom, is a matter of choice in design depending upon the type and cost of application.



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8. Claims 14, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Lee (US 5,560,640).

Re-claims 14, 25, and 26 Wessman as modified failed to disclose the suspension component comprises a toe link coupled to an electrically controllable bushing.

Lee teaches, as shown in fig. 1-2, a suspension component comprises a toe link 5 coupled to an electrically controllable bushing 7.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman as modified with a toe link coupled to an electrically controllable bushing, as taught by Lee, in order to improve vehicle stability.

9. Claims 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Kring (US 5,549,319).

Wessman as modified failed to disclose wherein the suspension component comprises a locking mechanism with a compliant rear suspension mount.

Kring teaches, as shown in fig. 1-4, the use of an adjustment mechanism 42-44 (wherein the claim language is broad and can be read as a locking mechanism) with a compliant rear suspension mount.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman as modified with a locking mechanism with a

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compliant rear suspension mount, as taught by Kring, in order to enhance the drivability of the vehicle.

**(10) Response to Argument**

Re-claim 1, Appellants argued that neither Fukushima nor Wessman teach or suggest a suspension component to reduce turning radius of vehicle; that Fukushima merely provides changes to a damper to adjust the center of gravity of the vehicle and not to articulate at least one wheel". Wessman disclosed in "Background of Invention" that "However, such a suspension arrangement optimized for a small minimum turning radius" in col. 1, lines 36-37. Fukushima disclosed to provide an actively controlled automotive suspension system which automatically controls the suspension for obtaining optimum cornering, see col. 3, lines 3-26 and col. 4, lines 50-68. The phrase "articulating at least one wheel" is relatively broad. Appellants admit the Fukushima suspension appears to be moved in a vertical direction can be read as articulating at least one wheel. Appellants disclosed in par. [0102] of the specification "In step 224, the normal load at selective wheel or wheels might be adjusted through suspension control or suspension modification. This may be done together with applying brake-steer in steps 220-222. By modifying the normal load of the suspension in step 224, the turning radius of the vehicle may be reduced further than brake-steer alone".

Re-claim 17, Appellants argued that "no teaching or suggestion is provided Wessman reference for a suspension that is controlled to reduce the turning radius of the vehicle in response to brake-steer. The Fukushima reference also does not teach or suggest brake-steer and does not teach generating a suspension control signal in

response to the brake-steer condition". Appellants failed to argue the combination of Wessman reference and the Fukushima reference.

Re-claims 3 and 23, Appellants argued that "no teaching or suggestion is provided for the missing elements of controlling a suspension component by Ritz reference". Ritz teaches applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel so that the turning radius of vehicle is reduced, see abstract, col. 2, lines 43-67 and col. 3, lines 1-13.

Re-claims 10 and 22, Appellants argued that "Krueger teaches the use of a pedal brake switch 82 to sense a brake signal during brake application". Wessman teaches means 5, 3a, 3b, 4a, 4b to detect a parking mode can be broadly read as a vehicle is stationary or is being turned at a relatively low speed, see col. 2, lines 11-15 and lines 51-62. Krueger is merely used for the known driver-actuated pedal brake switch to sense a brake signal detecting brake application during parking mode.

Re-claims 13 and 24 Appellants argued that "no teaching or suggestion is provided for articulating a Hotchkiss suspension in response to brake-steer by Nordstrom reference". Nordstrom is merely used for the known teaching of Hotchkiss suspension. Appellants failed to argue the combination of Wessman as modified and the Nordstrom reference. The use of the known Hotchkiss suspension is a matter of design choice.

Re-claims 14, 25 and 26 Appellants argued that "no teaching or suggestion is provided for using a controllable bushing to reduce the turning radius of the vehicle in response to brake-steer by Lee reference". Lee is merely use for the known teaching of

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suspension component comprises a toe link coupled to an electrically controllable bushing. Appellants failed to argue the combination of Wessman as modified and the Lee reference.

Re-claims 16 and 28 Appellants argued that “Kring reference also does not teach or suggest the elements missing from the base claims. Kring is merely used for the known teaching of an adjustment mechanism 42-44 (wherein the claim language is broad and can be read as a locking mechanism) with a compliant rear suspension mount. Appellants failed to argue the combination of Wessman as modified and the Kring reference.

#### **1(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

*M. Sy* M. Sy

November 15, 2006

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SUPERVISORY PATENT EXAMINER  
11/16/06

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